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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/820,348	04/07/2004	Roberto Aiello	012DIV-124	8143
44279	7590	11/17/2004	EXAMINER AHN, SAM K	
PULSE-LINK, INC. 1969 KELLOGG AVENUE CARLSBAD, CA 92008			ART UNIT 2637	
PAPER NUMBER				

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/820,348	Applicant(s) AIELLO ET AL.	
	Examiner Sam K. Ahn	Art Unit 2637	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 04/07/04 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>040704</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the *multiplexer/demultiplexer configured to distribute a plurality of incoming signals* must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claims 1 and 6, recite a multiplexer/demultiplexer performing functions of a multiplexer and a demultiplexer. The illustration of Fig.7 and the specification on p.38 support the multiplexing function, however, do not describe the function of demultiplexer in such as way as to reasonably convey to one skilled in the art. Claims 2-5 and 7-10 directly depend on claim 1 or 6.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States

only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Dress, Jr. et al. USP 6,603,818 B1 (Dress).

Regarding claims 1 and 6, Dress discloses a transmitter MAC layer (see Fig.10) comprising a clock synchronization unit (1001,1002) having a timing device with a clock speed, at least one frequency divider (1005,1003) coupled to said clock synchronization unit, said frequency divider configured to reduce said clock speed to generate a desired pulse repetition frequency (note col.8, line 43 – col.9, line 4), at least one slot allocation unit (1004) coupled to said at least one frequency divider, and a multiplexer/demultiplexer (1008,1009) operatively coupled to said at least one slot allocation unit, said multiplexer/demultiplexer configured to merge a plurality of outgoing signals (note col.9, lines 47-56).

Regarding claims 2 and 7, Dress teaches all subject matter claimed, as applied to claim 1 or 6. Dress further teaches wherein each of said at least one slot allocation unit has a particular pulse repetition frequency (note col.8, line 57 – col.9, line 16)

Regarding claims 3-5 and 8-10, Dress teaches all subject matter claimed, as applied to claim 1 or 6. Dress further teaches wherein each of said at least one slot allocation unit is configured to support different modulation techniques (note col.9, lines 17-46).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 11-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over McCorkle USP 6,735,238 B1 in view of Liebetreu et al. USP 6,735,734 B1 (Liebetreu).

Regarding claim 11, McCorkle teaches a ultra wide band MAC layer (9 in Fig.1a, note col.6, lines 11-22) generating at least one ultra wide band pulse (output of 15), and further suggesting implementation of timing modulation to allow plurality of transceivers operating within a close range (note col.11, lines 25-33).

However, McCorkle does not explicitly teach wherein said at least one ultra wide band pulse is configured to receive in each of slots from plurality of slots in a time division multiple access frame.

Liebetreu teaches implementation of time division multiple access (TDMA, TDM) in order to lower interferences between plurality of transceivers when used in a close range (note col.1, lines 13-39). And further teaches a media access controller (MAC) capable of performing different type of modulations wherein the pulses generated are configured into plurality of slots (see 42 in Fig.1 and note

col.5, lines 37-56). Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify McCorkle's system by dividing the generated ultra wide band pulses (see Fig.1b) into different slots wherein each slot would comprise at least one ultra wide band pulse for the purpose of implementing time division multiple access (as suggested by McCorkle).

Regarding claim 12, McCorkle in view of Liebetreu teach all subject matter claimed, as applied to claim 11. Liebetreu further teaches wherein the time division multiple access frame operates in aloha mode (note col.5, lines 10-30)

Regarding claims 13-15, McCorkle in view of Liebetreu teach all subject matter claimed, as applied to claim 11. McCorkle further teaches different modulation techniques that may be applied in transmitting, such as pulse repetition frequency, pulse position and pulse amplitude modulation (note col.6, lines 45-67). However, McCorkle does not explicitly teach wherein different slots would have different modulation types. Liebetreu also teaches wherein different modulation types may be implemented (note acol.7, line 60 – col.8, line 13) and further teaches wherein each slot would be capable of having different modulation technique (note acol.5, line 57 – col.6, line 8) for the purpose of even further decreasing the interference that may be caused by other transceivers (note col.5, lines 50-52).

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.


Ohki teaches plurality of modulators in a system capable of transmitting signals comprising slots having different modulation types.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Ahn whose telephone number is (571) 272-3044. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on (571) 272-2988. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Sam K. Ahn
11/13/04


YOUNG T. TSE
PRIMARY EXAMINER